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ABSTRACT

The significance students attached to teacher behaviors aimed at positively and negatively reinforcing them was examined in relation to certain attitudinal and demographic variables. Using "best liked" and "least liked" teachers as originators of the reinforcement, 256 eighth-grade students in Illinois indicated, in relation to each teacher referent, their feelings on a five-point scale about 20 behavioral events typical of those used by teachers in reinforcing students. A 2x2x3 analysis of variance was performed to determine the influence of the student's sex, social class, and attitude toward the teacher on the significance he attached to the positive reinforcement she offers. Student attitude toward the teacher, sex, and social class were found to be significantly related to how the student regards the teacher's reinforcement. Relationships among certain variables were conceptualized in terms of Newcomb's balance theory. (Author/JS)

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# PERCEIVED REWARD VALUE OF TEACHER-ISSUED REINFORCEMENT IN RELATION TO STUDENT ATTITUDE TOWARD TEACHER, SEX AND SOCIAL CLASS BACKGROUND: AN APPLICATION OF NEWCOMB'S BALANCE THEORY

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In studying the effects of reinforcement on behavior, the focus of attention has been mainly on subjects' overt responses to reinforcement as the behavioral characteristics of interest. Few investigators have been concerned with the individual's subjective reactions to the stimulus events which are intended to reinforce his behavior. Yet, how he responds to these stimuli depends in part on how he perceives them and the significance he attaches to them.

In the study described herein the significance students attached to certain teacher behaviors which were intended to reinforce them, was examined in relation to their attitude toward the teacher, their sex, and social class background. A number of investigators have found the subject's responsiveness to reinforcement to be positively related to his attitude toward the dispenser of the reinforcement (Ferguson and Buss, 1960; Sapolsky, 1960; Simkins, 1961; McCoy & Zigler, 1965). The findings bearing on the relationship of social class to reinforcer effectiveness are generally mixed (Terrell, Durkin & Wiesley, 1959; Douvan, 1956; Zigler & DeLabray, 1962; Zigler & Kanzer, 1962; Rosenhan & Greenwald, 1965; McGrade, 1965). And although sex differences in responsiveness to reinforcement have been observed in a number of studies, these results are similarly inconclusive (Ferguson & Buss, 1960; Rosenhan & Greenwald, 965; Stevenson, 1961; Stevenson, Keen & Knights, 1963; Meyer, Swanson & Kauchack, 1964; Rowley & Stone, 1964).

The studies cited above were concerned with subjects' attitude, sex, and social class in relation to positive reinforcement only. In this investigation, these variables were examined in relation to both positive and negative reinforcement.

As noted, there exists appreciable evidence of a positive correlation between the individual's responsiveness to reinforcement and his attitude

toward the dispenser of the reinforcement. However, the dynamics of this relationship have been given scarce attention in the literature. One of the ways in which it may be conceptualized is in terms of Newcomb's Balance Theory (Newcomb, 1953). His basic paradigm involves the co-orientation of two individuals, A and B, with respect to each other and a third concept, X, which may be any person, object, event or idea. The attitude of person A toward X is conjointly related to A's attitude toward B and his perception of B's attitude toward X. An individual tends to agree with those toward whom he holds a positive attitude and to disagree with those toward whom he holds a negative attitude. Thus, if the student has a positive attitude toward the teacher, he tends to regard the reinforcement she offers in a manner consonant with the spirit in which it is offered; which in the case of positive reinforcement, is rewarding, and in the case of negative reinforcement, is aversive. On the contrary, if he has a negative attitude toward the teacher, he is inclined to reject the intent of the reinforcement, since to accept it would be to agree with someone he dislikes. It should be noted that the terms "agree" and "disagree", as used in this context, carry a relative rather than absolute connotation. Thus, given two attitudes by students toward teachers, one positive and one negative, it was hypothesized that they would attach greater significance to both positive and negative reinforcement dispensed by the liked teacher than by the disliked teacher.

## Method

### Subjects

The subjects for the study consisted of 118 male and 138 female eighth-grade students from three communities in Illinois. The communities were predominantly white and all had populations of varying economic backgrounds.

The subjects were classified into three social class groupings, based on Hollingshead's Two-Factor Index of Social Position (Hollingshead, 1965). According to this index, there were 37, 107, and 112 students in the sample representing the upper, middle and lower social classes respectively.

Procedure

Prior to beginning the main study, it was necessary to develop a questionnaire consisting of typical classroom reinforcing behaviors of teachers. Items for the questionnaire were provided by 77 eighth-grade students who were not a part of the sample for the main study. The students were given a mimeographed paragraph describing common classroom episodes which illustrated student-behavior-teacher-reinforcement sequences. The examples included instances of both positive and negative reinforcement and the associated student behaviors. The students were then asked to provide as many similar episodes as they could think of that they had witnessed. The teacher reinforcing behaviors chosen for items in the questionnaire were those listed most often by respondents.

Twenty items were chosen for the final form of the questionnaire, twelve representing positive reinforcement and eight representing negative reinforcement. In responding to the questionnaire, the subject indicated his feelings about each given reinforcing act in relation to one of two teacher referents, "most preferred teacher," and "least preferred teacher," hereafter referred to as "liked" teacher and "disliked" teacher. The two teacher referent conditions under which the questionnaire was administered were separated by one week; the order being reversed for half of the respondents. On each occasion, before responding to the questionnaire, the examinee was asked to select the teacher he most (or least) preferred to have teach him, without identifying the teacher by name, and indicate his attitude toward

the teacher on a five point descriptive scale. The options on the scale ranged from "I like him (or her) very much" to "I dislike him (or her) very much." The results of this scale were used merely as an additional means of confirming the student's attitude toward the teacher chosen. To respond to the items, the students were asked to choose from among five statements the one most indicative of their feelings about a given reinforcing act in relation to a particular teacher referent. The following is an item taken from the questionnaire:

"Suppose you were in this teacher's class and he (or she) was busy doing something in the hall, and your classmates became loud and you tried to quiet them. If this teacher saw you after class and praised you for what you did, how would you feel?"

A. I would feel very good if this teacher did this.

B. I would feel good if this teacher did this.

C. I would feel neither good nor bad if this teacher did this.

D. I would feel bad if this teacher did this.

E. I would feel very bad if this teacher did this.

Upon completion of the questionnaire, the respondents were asked to provide certain personal data which included their sex, age, and information on their parent's occupations and educational backgrounds. The latter information was used with Hollinghead's scale in order to obtain an index of each respondent's social position.

Results

Complete data were available for 256 students. Each student had four scores, two of which provided indices of the significance attached to positive reinforcement dispensed by the "liked" teacher and the "disliked" teacher, and two of which provided indices of the significance attached to negative

reinforcement dispensed by the two respective teachers. To score the questionnaire, if the student chose options A or B for an item, that response was assigned a value of 3 points; if he chose option C, the response was assigned a value of 2 points; and if he chose option D or E, that response was assigned a value of 1 point. The point values were assigned in the reverse order for the items measuring negative reinforcement.

There were twelve items in the scale representing positive reinforcers. Nine of the twelve items pertained to symbolic or social reinforcers; the remaining three consisted of material reinforcers. However, these three were not included in the analysis of the data for the study described herein. Therefore, for the items measuring positive reinforcement, scale values may have ranged from 9 to 27 points. Scale values for the items measuring negative reinforcement may have ranged from 8 to 24 points.

Table 1 contains a summary of students by sex and social class membership.

TABLE 1

NUMBER OF STUDENTS WITHIN EACH SEX AND SOCIAL CLASS GROUP

| | Lower Social Class | Middle Social Class | Upper Social Class | Totals |
|---|---|---|---|---|
| Boys | 52 | 47 | 19 | 118 |
| Girls | 60 | 60 | 18 | 138 |
| TOTALS | 112 | 107 | 37 | 256 |

Included in the sample of 256 were 13 black students, of whom 8 were boys and 5 girls. However, no analyses were made by race, as the number of black students was too small to be treated meaningfully as separate entities within the various subgroups. However, an examination of their mean scores revealed that they did not differ appreciably from the mean scores of the lower social class, the grouping in which most of them were concentrated.

The means, and standard deviations of positive reinforcement scores for various groups appear in Table 2. A 2x2x3 analysis of variance was performed to determine the influence of the student's sex, social class and attitude toward the teacher on the significance he attached to the positive reinforcement she offers. The results of this analysis appear in Table 3.

TABLE 2

MEANS AND STANDARD DEVIATIONS OF POSITIVE REINFORCEMENT SCORES (SYMBOLIC) FOR 256 EIGHTH-GRADE STUDENTS

| | Liked Teachers | | | | Disliked Teachers | | | |
|---|---|---|---|---|---|---|---|---|
| | Boys | | Girls | | Boys | | Girls | |
| | Means | S.D. | Means | S.D. | Means | S.D. | Means | S.D. |
| Upper Social Class | 24.84 | 2.32 | 22.94 | 5.05 | 23.21 | 3.29 | 22.55 | 4.35 |
| Middle Social Class | 25.96 | 1.69 | 25.18 | 2.19 | 24.77 | 2.27 | 23.57 | 3.15 |
| Lower Social Class | 25.50 | I.93 | 24.70 | 2.91 | 23.81 | 3.94 | 24.00 | 2.95 |
| Combined Group | 25.43 | 1.93 | 24.27 | 3.06 | 23.92 | 3.28 | 23.37 | 3.26 |

TABLE 3

SUMMARY OF THE ANALYSIS OF VARIANCE FOR POSITIVE REINFORCEMENT SCORES (SYMBOLIC) FOR 256 EIGHTH-GRADE STUDENTS

| Source | df | Mean Square | F |
|---|---|---|---|
| Social Class | 2 | 78.36 | 5.72 ** |
| Sex | 1 | 72.39 | 5.28 * |
| Sex X Social Class | 2 | 8.22 | 0.6 ns |
| Error (a) | 250 | 13.69 | |
| Attitude Toward Tchr. | 1 | 143.22 | 41.93 *** |
| Sex X Att. Tow. Tchr. | 1 | 8.99 | 2.63 ns |
| Soc. Class X Att. Tchr. | 2 | 1.28 | 0.37 ns |
| Sex X Soc. Class X Att. towrd. Tchr. | 2 | 6.67 | 1.95 ns |
| Error (b) | 250 | 3.42 | |

* Significant at .05 level
** Significant at .01 level
*** Significant at .001 level

As seen from Table 3, significant F values were obtained for all three experimental variables. Students attached greater significance to positive reinforcement dispensed by liked teachers than by disliked teachers ($p < .001$). Boys attached more reward value to the positive reinforcement than did girls ($p < .05$). There were also significant social class differences ($p < .01$). Middle class students attached the greatest significance to the positive

reinforcement, whereas the upper class students attached the least significance to it. The value attached to the positive reinforcement by lower class students was intermediate between that of middle and upper class students, and did not differ significantly from the value attached to the reinforcement by either of the latter two groups.

The means and standard deviations for various groups for negative reinforcement scores appear in Table 4. The analysis of variance for these scores, also a 2x2x3 design, appears in Table 5.

TABLE 4

MEANS AND STANDARD DEVIATIONS OF NEGATIVE REINFORCEMENT SCORES FOR 256 EIGHT-GRADE STUDENTS

| | Liked Teachers | | | | Disliked Teachers | | | |
|---|---|---|---|---|---|---|---|---|
| | Boys | | Girls | | Boys | | Girls | |
| | Means | S.D. | Means | S.D. | Means | S.D. | Means | S.D. |
| Upper Social Class | 21.32 | 2.58 | 21.44 | 3.57 | 19.74 | 3.38 | 20.72 | 4.05 |
| Middle Social Class | 22.26 | 1.84 | 22.70 | 1.89 | 21.36 | 2.23 | 21.16 | 3.41 |
| Lower Social Class | 21.48 | 2.61 | 21.80 | 2.31 | 20.69 | 2.71 | 21.05 | 3.09 |
| Combined Group | 21.84 | 2.34 | 22.19 | 2.38 | 20.85 | 2.69 | 21.06 | 3.34 |

The results of the analysis indicated, as predicted, that the students attached less significance to negative reinforcement dispensed by disliked teachers than by liked teachers ($p < .01$). That is, when negative reinforcement originated with a liked teacher, students tended to regard it with

more aversion--which is consistent with the spirit in which it was offered--than when it originated with a disliked teacher.

There were no significant sex or social class differences in the way students regarded the negative reinforcement.

TABLE 5

SUMMARY OF THE ANALYSIS OF VARIANCE FOR NEGATIVE REINFORCEMENT SOCRES FOR 256 EIGHT-GRADE STUDENTS

| Source | df | Mean Square | F |
|---|---|---|---|
| Social Class | 1 | 37.76 | 3.50 ns |
| Sex | 1 | 11.44 | 1.06 ns |
| Sex X Social Class | 2 | 1.54 | .14 ns |
| Error (a) | 250 | 10.77 | |
| Attitude toward Tchr. | 1 | 107.87 | 26.79*** |
| Sex X Att. Tow. Tchr. | 1 | .17 | .045 ns |
| Soc. Class X Att. Tow. Tchr. | 2 | 1.90 | .47 ns |
| Sex X Soc. Class X Att. Tow. Tchr. | 2 | 4.63 | 1.15 ns |
| Error (b) | 250 | 4.03 | |

*** Significant at .001 level

Discussion

The findings indicated that the attitude of the student toward the teacher may be a significant factor in how he responds to her attempts to influence his behavior through positive and negative reinforcement. This would suggest that many teachers may be handicapped to a certain extent not only in their ability to positively reinforce desired responses but also in their ability to apply psychological sanctions through negative reinforcement. These results seem to offer support for findings obtained in earlier investigations (Ferguson and Buss, 1960; Sapolsky, 1960; Simkins, 1961; McCoy and Zigler, 1965). However, it is important to note that these earlier studies concentrated on the subjects' overt responses to reinforcement, whereas, this investigation was concerned with how he perceived the stimulus events which were offered as positive or negative reinforcement.

The sex differences that were observed in the students' reactions to the positive reinforcement are somewhat more difficult to interpret. Related findings have been obtained in other investigations (Rosenhan & Greenwald, 1965; McManis, 1965). But other studies have shown results inconsistent with these findings (Ferguson & Buss, 1960; Stevenson, 1961; Stevenson, Keen & Knights, 1963; Rowley & Stone, 1964). Inasmuch as sex differences have been noted, it is important that provisions be made in a study such as this to prevent possible confounding due to sex.

Although a significant difference was noted between two of the social classes in their responsiveness to the positive reinforcement, these findings, also, are far from being clear. The relationship between social class and reaction to reinforcement may not be a simple one. An examination of the literature indicates that there are two opposing arguments on this question. On the one hand, there is the view that the lower class student is conditioned

by his background to value the intangible rewards associated with the classroom less highly than his middle and upper class contemporaries. This argument draws heavily on the works of Davis (1941), Ericson (1947), and Douvan (1956). On the other hand, there is the argument that since the lower class student comes from a background in which he has often been deprived of social support, he develops a greater need for such and is, therefore, more responsive to it when it is offered. The principal exponent of this notion has been Rosenhan (1966). Concomitantly, it is suggested that the middle and upper class student's need for social support is satiated, by virtue of his background. Considering both arguments, it is possible that the outcomes noted in this investigation are in part a reflection of these two conflicting tendencies.

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